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January 4, 2008 Volume 30 Number 1 www.processor.com



Storage Under The Radar

These Lesser-Known Storage Manufacturers Offer A Big Bang For The Buck

by Christian Perry

As STORAGE CAPACITY and flexibility continue to demand attention in small and midsized enterprises, managers are scrambling to identify manufacturers that can deliver the perfect fit for their storage environments

Although larger, well-known manufacturers often tout systems that can accommodate businesses of all sizes, SMEs can benefit by looking at smaller or lesser-known companies that understand the unique challenges inherent in smaller environments that are fueled by smaller budgets. Here's an inside look at several smaller storage manufacturers that SMEs should get to know.



In 2001, Nexsan Technologies (www nexsan.com) released its first product, the



ATABoy, showcasing the company's early knack for innovation. Instead of being a RAID controller designed for SCSI or

Fibre Channel disk drives converted for ATA drives, the ATABoy was a RAID controller that was designed from the ground up for ATA drives, taking into account those drives' specific capabilities and characteristics. Over the years, Nexsan has continued to push ATA and SATA technologies in new directions.

"This focus on ATA and then SATA technology innovation was driven by an insight and vision into an emerging customer need and problem," explains Bob Woolery, senior vice president of marketing at Nexsan. "From their experience in

the tape storage business, Nexsan founders understood that much of customers' data on primary storage systems was inactive. In fact, up to 80% of all data was static or persistent."

Yet, Woolery says primary storage systems using Fibre Channel and SCSI technologies can range from \$3,000 to \$10,000 per terabyte when factoring in hardware, software, and services for installation and maintenance. Tape systems, on the other hand, tend to lack the reliability and performance attributes of disk-based systems.

Nexsan sells its products through VARs and OEMs, and systems integrators have deployed more than 16,000 systems worldwide to more than 5,000 end users. "We are focused on SMEs that face

the same challenges of storing growing volumes of data and managing it over *Go to Page 11*

2008 Data Center Hardware Budgets

What Will IT Monies Be Spent On In The New Year?

 $by\ Sixto\ Ortiz\ Jr.$

THE SHAPE OF FUTURE IT spending patterns makes many data center hardware manufacturers quake with anticipation as a year ends and another one begins. Will they spend more? Will they spend less? Marketing and

manufacturing plans are often predicated on what manufacturers, analysts, and other industry watchers think IT consumers will spend in the months and years ahead.

Now that manufacturers have figured out small to medium-sized enterprises present an excellent opportunity to increase revenues

As 2008 begins, SME data center hardware expenditures will go a long way toward deciding the kind of year manufacturers will have.

and capture new markets, SME spending patterns have become quite important. As 2008 begins, SME data center hardware expenditures will go a long way toward deciding the kind of year manufacturers will have.

SME Hardware Adoption During 2007

A recent Forrester Research report ("The State of SMB Hardware Adoption") details findings gleaned from a survey Forrester conducted last year to analyze 2007 hardware spending and adoption patterns by SMEs in both Europe and North America.

The survey results reveal that 26% of current (that is, 2007) IT operating budgets are devoted to hardware, with the remaining 74% lumped under "other." Also, survey respondents said 38% of their hardware budgets were going to be dedicated to the purchase of new hardware and system software, with the remaining 62% dedicated to existing operations and maintenance. Finally, respondents revealed that 50% of hardware budgets are spent on PCs and PC operating systems (30%) and on servers, server operating systems, and server virtualization (20%).

In terms of servers and storage, 58% of respondents were either interested in server

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Smaller Manufacturers Of Key Data Center Products

We highlight some lesser-known manufacturers of products in four areas: storage, security, power and cooling, and VoIP.

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Ironically, perhaps, virtualization's overexposure has made it difficult for IT and data center managers, particularly in small to midsized enterprises, to ask the simple question "Where do I begin?"

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Product Releases | 14

- CRU-DataPort introduced the latest edition of its Data Express DE75, formerly the StorCase.
- Emerson Network Power announced a capacity expansion to the upflow configuration of the Liebert DS precision cooling system. Lancope released the latest version of its network behavior and analysis software, StealthWatch System 5.7.
- MessageOne announced advanced import capabilities for its Email Management Services that allow customers to import messages stored in Microsoft Exchange, .PST files, and legacy onpremise archives.

 MPC Computers released a new email archival appliance. The hardware/ software MPC MailFRAME captures, stores, and retrieves email automatically. ■ Net Optics introduced a new family of Multi-Segment Bypass switches to protect and flexibly manage inline IPS deployments.

 Onaro announced new and updated products in the SANscreen product family to provide end-to-end service visibility for both physical and virtual servers across SAN and NAS networked storage environments.

 Upsite Technologies introduced the next version of its Koldlok Extended Raised Floor Grommets.

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2. How often do you purchase of hardware/software?	computer	E \$1,000,000 to \$77,777	
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storage can grow as your business grows without adding additional boxes or complexity. The unique NetApp architecture allows a single drive to be added transparently to an existing RAID group without disruption to applications or users.

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TODAY'S ENTERPRISES are filled with vast amounts of data in a variety of formats in seemingly endless numbers of locations. Finding the information you need can be daunting, which is where programs such as those from dtSearch can be essential.

dtSearch can instantly search terabytes of text because it builds a search index that stores the location of words in documents. Indexing is easy: Simply select folders or entire drives to index and dtSearch does the rest. dtSearch automatically recognizes and supports all popular file formats and never alters original files.

dtSearch can also create (and search with a single request) an unlimited number of indexes. Since you may want to search files that dtSearch has not indexed, dtSearch also does unindexed, as

well as "combination," searching.

All dtSearch products can index more than a terabyte of text in a single index and create and search an unlimited number of indexes. Search time is typically less than a second, even across terabytes of data.

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play of Web-ready content with highlighted hits and all images, links, and formatting intact; built-in HTML converters for hithighlighted display of other popular file types; and distributed or federated search options, with

display of local and remote content.

The dtSearch product line also embeds the dtSearch Spider, providing support for public sites, secure content HTTPS, password-accessible sites, and forms-based authentication; searching of static and dynamic content; and relevancy-ranking of spidered and non-spidered content.

NOVEMBER 16, 2007

NOVEMBER 30, 2007

OCTOBER 26, 2007

The dtSearch Engine lets C++, Java and .NET developers add dtSearch terabyte indexer and file format support to Webbased and other applications.

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Physical Infrastructure

Keep Your Data Center Cool & Dry

Rely On AVTECH's Room Alert 11E Environmental Monitor

Environment conditions in today's data centers are a major concern. Power outages, air conditioning failures, or blocked ventilation can cause temperatures to rise above 85 degrees in minutes, potentially damaging equipment and putting data at risk.

AVTECH Software's Room Alert 11E is a powerful, inexpensive, easy-to-use way to combat potential environmental problems.

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PHYSICAL INFRASTRUCTURE

A Master Enterprise View which helps reduce the need for redundant hardware. With the MasterView Plus, you capabilities mean PCs for mainten

New ATEN KVM Bundle Provides Perfect Features For Monitoring & Maintaining Servers & PCs

TODAY'S DATA CENTERS require convenient, space-saving, streamlined KVM equipment. ATEN'S 17" Single-Rail LCD Integrated Console and MasterView KVM bundle is designed with those needs in mind.

ATEN's economy LCD KVM console, CL1000M, integrates a keyboard, 17-inch LCD, and touchpad in a 1U Slideaway housing. Setup is fast and easy. There is no software to configure, no installation routines, and no incompatibility problems. Slide the console module section out and flip up the cover, and you are ready to work.

When finished, flip down the cover and slide the console module back into the rack.

By using the CL1000M to manage your installation, you save space; eliminate the expense of having to purchase a separate keyboard, monitor, and mouse for each PC if attaching to a KVM switch; and can take advantage of upgrading your current system

ATEN is now bundling the CL1000M with an eight-port MasterView Plus, which helps reduce the need for redundant hardware. With the MasterView Plus, you can control up to 512 computers with a single keyboard, monitor, and mouse. And it requires no software.

MasterView Plus is more than a simple eight-port KVM switch. A built-in Auto-Scan mode lets you monitor every attached computer for a specified amount of time, while the on-screen display lets you assign a

> unique name to each computer and access it via a slick, menu-driven interface. A Quick View Scan feature makes it easy to monitor selected PCs, and hot-pluggable



capabilities mean you can add or remove PCs for maintenance without powering down the switch. The MasterView's 1U, 19-inch rack-mountable casing and status-monitoring LEDs make it ideal for server rooms or other multicomputer environments.

ATEN 17" LCD Integrated Console
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MarketPlace -



NEWS



Cisco Exec Leaves

CHARLES GIANCARLO, Cisco's executive vice president and chief development officer, resigned from the company effective Dec. 31. Giancarlo was widely expected to replace Cisco CEO John Chambers once he retired. Giancarlo has taken a position as managing director and partner at Silver Lake, a firm that invests in technology, technology-enabled, and related growth industries. Giancarlo worked at Cisco for 14 years, joining the company when it acquired Kalpana in 1993. He was most recently responsible for more than 30,000 employees and \$30 billion in product sales.

FTC Approves Google/DoubleClick Merger

THE FEDERAL TRADE COMMISSION has given its blessing to Google's proposed \$3.1 billion merger with DoubleClick. "After carefully reviewing the evidence, we have concluded that Google's proposed acquisition of DoubleClick is unlikely to substantially lessen competition," the commissioners' statement said. The merger still needs antitrust approval from European regulators, who are expected to give their final decision on or before April 2. Europe's leading consumer lobbyist group, the BEUC, has urged the European Commission to reject the Google/Double-Click merger, saying the merger would create a structure "that almost certainly will be less respectful of user privacy."

Nortel Sues Vonage

VONAGE HAS FOUND ITSELF facing another legal issue. Nortel has filed a lawsuit in the U.S. District Court in Delaware alleging that Vonage has violated nine Nortel patents. The patents in question relate to 911 and 411 calling, Voice over IP technology, and click-to-call features. The suit was made to counter similar patentinfringement claims Vonage has made to Nortel. That case was originally brought against Nortel by Digital Packet Licensing, which filed the suit in 2004 alleging Nortel's infringement of three patents. Vonage acquired those three patents from Digital Packet Licensing in 2006.

Oracle Earnings Beat Forecasts

ORACLE POSTED a second-quarter fiscal 2008 net income of \$1.3 billion, or 25 cents a share, up about 35% compared to a year ago. Second-quarter new software license sales were up 38% compared to a year ago, beating the 35% year-over-year increase in new software license sales the company posted during the first quarter. Total software revenues for the quarter were up 29% to \$4.2 billion. Oracle CEO Larry Ellison noted that the company's database and middleware new license sales grew 28% in the second quarter as the company continues to take market share from IBM.

Sprint Nextel Appoints New CEO

DANIEL HESSE, a veteran of the wireless industry, will take over as Sprint Nextel's new CEO and will also serve on the company's board of directors. Prior to this position, Hesse had been CEO at Embarq since it began in 2006, and before that, he headed up Sprint's local telecommunications division until it was spun off to form Embarq. He also served as chief executive of AT&T Wireless from 1997 to 2000. Hesse replaces Gary Forsee, who resigned from the position two months ago; CFO Paul Saleh had been filling the spot as interim CEO.

Palm Posts Loss

PALM LOST \$9.6 MILLION, or about 9 cents a share, during the second quarter of its fiscal 2008 year. That compares to a net income of \$12.8 million, or 12 cents a share, a year ago. Palm had a quarterly revenue of \$349.6 million. A bright spot in the quarterly report is that Palm says it sold 686,000 smartphones during the quarter, an increase of 11% compared to a year ago. The company expects a third-quarter loss of between 31 and 33 cents a share, with revenue between \$310 million and \$320 million.

Red Hat CEO Steps Down

AFTER SERVING AS CHIEF EXECUTIVE of Red Hat for eight years, Matthew Szulik has turned in his resignation from the positions of CEO and president, citing family health issues as the reason. He does plan to stay chairman of the board, however. James Whitehurst, previously the chief operating officer at Delta Air Lines, will take over as CEO at Red Hat and will also be on the board of directors. Meanwhile, Red Hat announced third-quarter revenue grew yearover-year by 28% to top \$135.4 million, while profit rose to \$20.3 million, or 10 cents per diluted share, up from last year's \$14.6 million, or 7 cents per diluted share.

WATCH THE

This information provides a quick glimpse of current and historical stock

Company	Symbol	Year Ago	Dec. 18 \$	Dec. 21 \$	% change from previous week
BEA Systems	BEAS	\$12.58	\$15.50	\$15.95	▲ 2.9%
Computer Associates	CA	\$22.65	\$25.64	\$25.72	▲ 0.31%
Cisco Systems	CSCO	\$27.33	\$28.15	\$28.60	▲ 1.6%
Dell	DELL	\$25.09	\$24.02	\$24.88	▲ 3.58%
Electronic Data Systems	EDS	\$27.55	\$20.76	\$21.17	▲ 1.97%
Google	GOOG	\$460.48	\$673.35	\$696.69	▲ 3.47%
HP	HPQ	\$41.19	\$51.02	\$52.03	▲ 1.98%
IBM	IBM	\$97.15	\$106.31	\$111.05	4.46%
Intel	INTC	\$20.25	\$25.91	\$26.96	4 .05%
McAfee	MFE	\$28.38	\$37.67	\$38.12	▲ 1.19%
Microsoft	MSFT	\$29.86	\$34.74	\$36.06	▲ 3.8%
Oracle	ORCL	\$17.14	\$21.25	\$22.71	▲ 6.87%
Red Hat Software	RHT	\$23	\$18.35	\$20.71	▲ 12.86%
Sun Microsystems	JAVAD	\$5.42	\$19.13	\$18.79	▼ 1.78%
Symantec	SYMC	\$20.85	\$16.46	\$16.85	▲ 2.37%

NOTE: This information is meant for reference only and should not be used as a basis for buy/sell decisions

IDC Forecasts Q4 PC Sales

WITH A BOOST from solid laptop sales, IDC predicts in its Worldwide Quarterly PC Tracker that worldwide PC shipments for the fourth quarter of 2007 will grow 16.7%, up from 2006's fourth-quarter growth of 7.9%. IDC projects the overall growth rate for 2007 will surpass 2006's 10.1% growth to total 14.6%. IDC notes that worldwide shipments for laptops for Q3 rose 37%, while shipments for desktops accounted for single-digit growth. Likewise, of client PCs, laptops made up almost 45% of the market in the third quarter, and IDC predicts laptop market share will top 50% by the end of 2008.

Losses From Phishing, Fraud Up

THE NUMBER OF PEOPLE who lost money in a phishing scam or were victimized by a phishing attack increased dramatically between August 2006 and August 2007, according to Gartner. The report also noted that, since 2004, the number of people who have received a phishing email during a year's time has more than doubled to 124 million people. The most recent Gartner figures show that about 3.3% of those who received a phishing email lost money as a result; that compares to 2.3% a year ago. According to Gartner, bank check or debit cards are most often compromised.

Energy Use Benchmark Released

SPEC (STANDARD PERFORMANCE EVAL-UATION CORP.) released a new benchmark designed to help server buyers compare power consumption in relation to performance and improve server efficiency. The benchmark, SPECpower_ssj2008, was created by SPEC with the help of several major manufacturers, including AMD, Intel, Dell, IBM, HP, and Sun. According to SPEC, the benchmark reports server power consumption at performance levels ranging from idle to 100%. It uses Java business applications with a workload that is scalable, multithreaded, and portable across a range of operating environments, and it tests CPUs, caches, memory hierarchy, and shared memory processors.

Data Centers Becoming Outdated, Not Being Replaced

ACCORDING TO A STUDY conducted by the Aperture Research Institute, 38% of the more than 600 data center facilities polled said their existing data center is at least four years old, with 64% saying they are not currently planning or building a new data center. Meanwhile, only 36% are planning and/or building new centers. Researchers expressed concern over these figures because it takes an average of three years or more for a company to plan and construct a data center, and modern hardware is demanding more power and cooling than ever. Despite this fact, 87% said they have introduced blade servers.

IT Workers Identify Top Political Issues

IT WORKERS BELIEVE THE WAR IN IRAQ, terrorism, and the economy are the top issues facing the next president, according to a survey by CompTIA (Computing Technology Industry Association). The survey polled 600 IT workers asking them about the top issues and several policy issues related to IT. Other survey findings include: 48% of those surveyed believe free trade helps the economy; 82% say the government should avoid regulating the Internet; 60% say individuals, rather than companies or the government, should be responsible for protecting privacy on the Internet; and 39% believe the government should do more to protect intellectual property.

Upcoming IT Events

- JANUARY -

Storage Visions 2008 Conference January 5-6 Las Vegas, Nev. www.storagevisions.com

. Florida Educational Technology Conference

January 22-25 Orlando, Fla. www.fetc.org

WCA International Symposium &

Business Expo January 29-Feb. 1 San Jose, Calif.

www.wcai.com - FEBRUARY -

SCALE 6x - 2008 Southern California

Linux Expo February 8-10 Los Angeles, Calif. www.socallinuxexpo.org

. Comptel Plus Spring 2008 Convention & Expo

February 24-27 Nashville, Tenn. www.comptel.org

- MARCH -

Gartner Wireless & Mobile Summit March 3-5

Chicago, III. www.gartner.com/it/summits/ra11/index.jsp

Secure IT Conference March 4-6

San Diego, Calif. www.secureitconf.com

Help Desk Institute Conference

March 9-12 Dallas, Texas www.thinkhdi.com/hdi2008 VoiceCon

March 17-20 Orlando, Fla. www.voicecon.com

. Boston SecureWorld Expo March 26-27 Boston, Mass.

www.secureworldexpo.com **Data Center World**

March 30-April 3 Las Vegas, Nev. www.afcom.com

> - APRIL -**FOSE** April 1-3

Washington, D.C. www.fose.com

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Chicago, III. www.gartner.com/it/summits /bi6/index.jsp

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SIX QUICK TIPS

Buying Used Equipment The Smart Way

by Drew Robb

WITH IT BUDGETS REMAINING TIGHT, it's no surprise that more companies are looking to buy second-hand as a way to cut costs. Here are some tips on how to go about buying used gear.

Great Deals Available

According to the U.S. Environmental Protection Agency, about 130,000 computers a day are discarded in the United States. Gartner Group estimates that more than 46 million servers will be sold between 2006 and 2010. Probably a lot more will be discarded due to ongoing consolidation and virtualization initiatives in data centers. In some cases, companies can move work off 20 boxes onto one machine.

With such an abundance of gear, a number of enterprising companies now make a living taking unwanted hardware off our hands. And the deals available are attractive.

"Buying used can save 60% vs. buying new," says Mike Cunnien, director of sales at WDPI (World Data Products Inc.; www.wdpi.com), a company that specializes in the reselling and leasing of refurbished, used, and new server, storage, and network equipment.

Choose Your Vendor Carefully

While buying used may not make sense if you need full mission-critical support, it can be a good move for routine or low-priority tasks. Companies such as WDPI, C-tech Development (www.ctech.com), and Network Liquidators (www.networkliquidators.com) offer a wide range of second-hand goods.

"Make sure you're dealing with a reputable company, as there is a lot of counterfeit gear out there, particularly with regard to networking equipment," says Cunnien. "Make sure your vendor has a complete testing and refurbishing process that's documented." Dependable companies also offer a 90-day return policy, which is all you really need, as a lemon will be apparent immediately.

"We might buy one to 100 racks of equipment, take those back to our facility, and determine which equipment we are going to refurbish and resell and what equipment will be recycled," says Barry Shevlin, CEO of Network Liquidators, a company that started out with Cisco (www.cisco.com) switches and routers but now sells networking equipment from other vendors, including telecom equipment.

Second-Hand Support

The big hardware OEMs have carved out a large slice of the market, based as much upon the support they offer as the price. In

"Used equipment is particularly suitable for enterprises that have made investments in prior-generation technology and want to remain on that platform or software revision, or when there is uncertainty or delays surrounding the upgrade path for older technology."

-Gartner Group's Francis O'Brien

Like all the better second-hand specialists, WDPI gets most of its inventory from enterprises that want to offload gear to bring in new boxes or standardize on a specific server platform. When choosing a vendor, it's advisable to check out the processes being used to reclaim old servers.

order to compete, used-equipment vendors have followed two paths: offering decent support or offering little or nothing in that department.

It is important to understand what you can expect (or not expect) in the support realm before committing to a deal. There are some second-hand equipment dealers that have stepped up to the plate and now offer reasonable support. They are willing to stand behind their machines, at least for a few months. You will typically pay a little more for that peace of mind.

With no real support, the risk is obviously greater. That has to be married up with the price advantages before a decision is made. And in that situation, vendor reputation can be ascertained on other channels. Ideally, go see the equipment and see it in action before you buy. Only purchase online under such circumstances if some kind of return policy is in place. If equipment is going to break, it generally does so in the first few days. So don't buy it and let it sit for a month or two before bringing it online.

"There are more worries over support and licensing on second-hand kits," says Clive Longbottom, an analyst at Quocirca (www.quocirca.com). "You have to take a good look at what the real savings or costs would be."

BONUS TIPS

Used networking gear is a great deal.

While OEM price-slashing makes buying used less attractive in some quarters, there are some areas where buying used makes

are some areas where buying used makes sense—that holds true for networking equipment in particular.

"Certain types of second-hand network equipment can be obtained inexpensively, as there has been less of a price war going on there," says Clive Longbottom, an analyst at Quocirca (www.quocirca.com). "For example, older 100Mb equipment can be found at real bargain-basement prices. But I'd steer clear of storage—the platters and bearings may be on their last legs."

Use caution with eBay. One big location for the burgeoning refurbished server market is eBay, where thousands of people make a living selling hardware online. While many are honorable souls, there are scam artists, too.

"I'd recommend reviewing the seller's ratings on eBay," says Cunnien. "You want to ensure it's a quality product that will work. Look for warranties and guarantees (which aren't typical)."

Buy Used To Stay On Aging Platforms

People on older platforms may have no choice but to look at the second-hand market in order to keep their systems running. Users of aging VAX boxes, for instance, have no OEM to turn to. So they buy from a few vendors who make a living keeping them supplied with parts and refurbished systems.

Similarly, AlphaServers and other hardware have been phased out by their OEMs in recent years. Yet such systems typically engender a high degree of loyalty due to their level of reliability.

"Used equipment is particularly suitable for enterprises that have made investments in prior-generation technology and want to remain on that platform or software revision, or when there is uncertainty or delays surrounding the upgrade path for older technology," says Francis O'Brien, research vice president at Gartner Group. "Frequently, used equipment is also purchased for spare parts or replacement machines onsite and for enterprise disaster recovery initiatives."

Another side to spare parts is the need to add newer parts to older servers. WDPI picks up old machines and upgrades their memory, processor, disks, and other parts. This makes the equipment more attractive and adds to its shelf life. It can also be a good way to pick up a decent server configuration at a lower price. A one-year-old server will still be pricey, but a three-year-old model with upgraded components will be inexpensive—and, in some cases, almost as good.

BEST RETURN ON INVESTMENT:

Trade-In Is A Nice Bonus

O Like car dealerships, used equipment vendors sometimes offer a trade-in fee, which takes the old model off your hands, so you can buy new goods without having to spend as much.

"Look for trade-in opportunities of existing equipment," says Mike Cunnien, director of

sales at WDPI (www.wdpi.com). "Also look for companies that have service offerings or use third-party maintenance, which can extend the life cycle of the equipment even further. This can save another 50 to 60% over OEM maintenance costs."

BEST TIP:

Server Disposal

O Server disposal is becoming a big issue. The European Union, for instance, has the WEEE (Waste Electrical and Electronic Equipment) directive and the RoHS (Restrictions on Hazardous Substances) law. These make OEMs responsible for equipment disposal, as well as sale. Such legislation will probably make its

way to our shores in the near future. So factor disposal costs into the cost equation. While this is not a major factor in the United States at the moment, expect reputable used-equipment vendors to begin to offer disposal services in order to remain competitive with the big OEMs.

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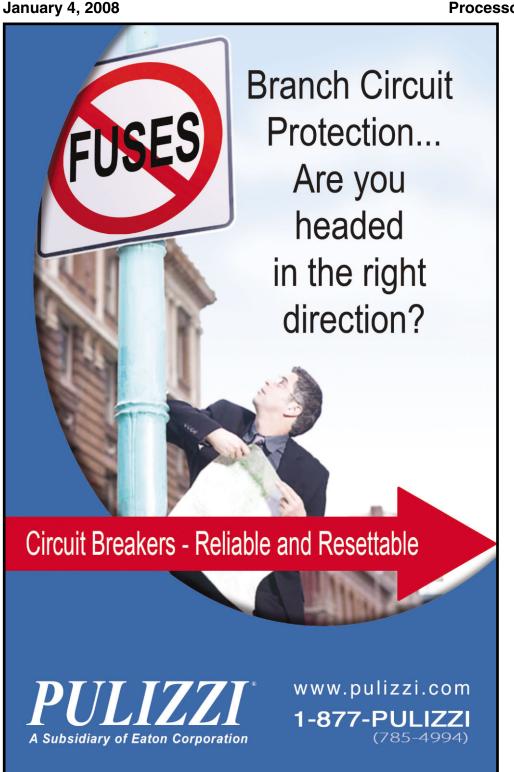
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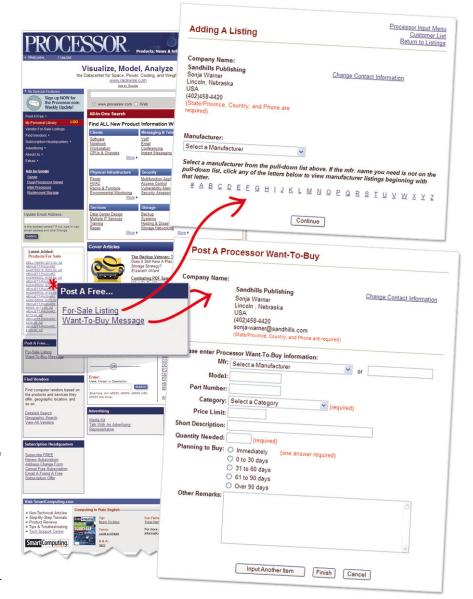
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Keep Your Eye On These Security Manufacturers

Vendors Offer Products & Services Of Special Interest To SMEs

by John Brandon

IN COMPUTER TECHNOLOGY, security is both a buzzword and an important topic that affects us all. As a buzzword, it denotes the fact that products tend to come and go, and strategies seem to change like the wind. For a small to medium-sized enterprise, security also presents a distinct challenge. It requires a focused effort to cover all points of contact with data, from Gigabit connections in a remote office to mobile devices that can tap into financial data over Wi-Fi. Even though a multifaceted approach is required to dissuade employees from breaking protocols and to stop hackers, it's also easy to get inundated by companies that offer the security solution du jour. Smaller companies lack the resources to investigate every new service

Great Potential

Hackers routinely try to break into corporate sites, a fact that is vividly clear if you use AppliCure Technologies' dotDefender Monitor (applicure.com). The monitoring agent scans your corporate site and looks for intrusions. When hackers do compromise a Web site, it can give them access to internal networks and, most importantly, applications running inside the company on that server.

The company's DotDefender is a software-based Web application firewall that protects not only servers and dotcom sites but the applications running on the server, as well. It protects against SQL injection, site defacement, cross-site scripting, and other common attacks.

"We look at the problem of Web application security from the perspective of hackers—who are by nature extremely innovative—and our goal is to make great security extremely easy to obtain and use for customers," says Carl Hartman, the director of North American operations. "AppliCure's dotDefender is a low TCO (Total Cost of Ownership), high ROI (Return on Investment) solution that offers great protection. It's easy to use, quickly deployed, and priced right for the midmarket."

and product, but these three companies offer something unique.

TriGeo

To an SME data center administrator, security products can require your full attention. Unfortunately, there's also the network, application servers, data center cooling issues, and any number of new technologies (such as VoIP) to manage. TriGeo (www.trigeo.com) has distinctly positioned itself to support the SME market, as opposed to an enterprise product that has been stripped down with fewer features. The TriGeo SIM (Security Infor-

mation Manager) appliance requires no intervention at all from the data center administrator: It configures and tunes itself. The company also offers fixed management and support, plus a network security and management system that they describe as another member of the team.

"TriGeo has the unique ability to actively defend the network with hundreds of highly targeted correlation rules and active responses that include functionality to quarantine, block, route, and control services, processes, accounts, and privileges," says Michael Maloof, Tri-Geo's CTO. "The TriGeo SIM combines real-time log management, event correlation, USB detection, and prevention with its unique active response capabilities."

TriGeo was founded in 2001 based on security research by Dr. Deborah Frincke. Key products include TriGeo InDepth, a log management utility that adds the ability to manage and respond to suspicious activity, and TriGeo InSight, a network analysis tool that lets admins review and investigate unusual network configurations, suspicious activity on the network, and strange usage patterns.

Bluesocket

The security landscape has changed dramatically in the past nine years. Bluesocket (www.bluesocket.com), which

started in 1999 before wireless networks were really on the SME landscape, was one of the first companies with a product specifically designed to protect corporate WLAN gateways in an open, multivendor environment. Once a company that made only hard-wired security products, the core offerings have since evolved into enterprise mobility tools, WLAN management software, and VoIP monitoring agents. The company was first to market with 802.11 secure gateway and the first policy-based WLAN monitor.

"We are the first company to deliver an enterprise communication solution that unifies secure wireless LAN and SIP-based enterprise Voice over IP," says Ken Lynch, director of product marketing. "Additionally, Bluesocket's WLAN

architecture uniquely provides customers with the ability to dramatically reduce the cost of deploying and operating large-scale Wi-Fi networks while providing wired-equivalent performance for wireless users, with seamless roaming and enterprise-class security and policy management. Bluesocket is unique in its ability to deliver the SMB market segment with an enterprise communication solution that unifies secure wireless LAN and SIP-based enterprise VoIP."

One of the key benefits to the SME market is scalability. Bluesocket products have

"enterprise-like" features that support multiple access points from multiple vendors, QoS for applications, and open standards and yet are priced in bundles with or without voice products and are easy to scale as a company grows. As a result, SMEs aren't being stagnated with a product that only supports a set number of vendors. The VoIP products actually come from last year's acquisition of Pingtel, an SIP-based enterprise management communication product suite.

Computer Resource Center

Disaster planning is the famously underrated, and sometimes overlooked, step in the security infrastructure. When a new product emerges for protecting data access points or monitoring instant messaging chat sessions, IT flocks to it as the latest and greatest invention. Yet, disaster recovery is a more general infrastructure security step that some companies only revisit on a yearly basis (or less). With CRC (www.crcdataprotection.com), disaster recovery becomes a more vibrant, constantly evolving activity. The company essentially provides a hosted solution for disaster recovery and secure data archiv-

ing. Interestingly, the company learned about data security redundancy through other parts of its business. For example, by maintaining its SaaS (software as a service) and ASP (application service provider) products, the company found data redundancy and protection was a primary concern for SME customers, so CRC parlayed that into a primary business offering.

The data protection services start at about \$150 per month, at an average of about \$4 per compressed gigabyte per month. CRC partners with Asigra for software and as its main product offers Asigra Televaulting, which is housed in SAS 7-Type II data centers using AES 256 data encryption. The product meets the criteria of many SMEs:

lower complexity, better compliance, and a lower cost.

"So many companies are still using tape, and when they take a look at our services, they often realize that they are not as protected as they may think," says Robert Gerace, CEO at CRC. "Since our software—Asigra Televaulting—supports hot backup of Exchange, SQL, Share-Point, Domino, DB2, and Oracle, and because we have the expertise in house to back up, restore, and tune those server applications, we are a great match for the midlevel market."

NETWORKING & VPN
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Smaller Power & Cooling Manufacturers

Lesser-Known Companies You Should Get To Know

by Mark Brownstein

IT'S RELATIVELY EASY to select products from large vendors. One-size-fits-all has been a basic stock-in-trade for many of the larger power product companies. To offer a few basic components, and require customers to shoehorn these few pieces into a system that sort of works for them, is an easy way for a large manufacturer to keep plodding along.

Smaller, more agile companies have positioned themselves to plug the holes these behemoths leave. In the areas of power and cooling, a number of companies (and, in this article, a new division of a larger company that remains focused on individual needs) are of special interest to the small to midsized enterprise anticipating expansion, consolidation, or other tasks in the coming year.

Pulizzi Engineering

Pulizzi Engineering (877/758-4994; www .pulizzi.com), recently acquired by Eaton, "manufactures power distribution units for rackmount applications," says Joe Skorjanec, sales operations manager at Eaton's Pulizzi division.

"Our power solutions go up to 23kW. We can provide power for blade servers with one unit, where competitors need three or four power distribution units to supply adequate power," he says.

Additionally, the Eaton products provide "a lot of functionality," including current monitoring and temperature monitoring. "The majority [of the competition] can monitor either temperature or power [but not both]," Skorjanec continues. "We offer a temperature and a water sensor." And, for example, he says, "If we get into a university with a lot of little data rooms around

the campus, they may want to put in a smoke detector, a water detector, and to monitor access [to the data rooms]," Skorjanec notes.

Eaton also offers the ability to monitor temperatures at rack level. "If the cooling of components in a data center is a hot issue, we offer two temperature probes to monitor hot and cold, wherever [the IT department] feels hot spots might be," says Skorjanec. "A user will get a notification if a fan is going out or if there's a blockage to airflow." Additional capabilities include a switch product that allows a manager to

Busways can provide a wide variety of amperages, running "from 40 amps to our largest size of 400 amps," notes Ross. The company also provides industrial units with capacities as large as 5,000 amps.

"Many data centers have racks of server computers in 42U cabinets. They stack a row and want to supply power to the row. In a typical application, they can mount a Starline Track Busway overhead and have plug-in units drop power down to each rack," Ross says. Universal Electric can custom-build products for each customer's needs and preferences.

> For higher degrees of reliability, redundant busways can be installed so that if one should fail, the other can be used. Systems using the Universal products "can be set up for automatic failover, an automatic transfer using a power distribution unit from another company," says Lance Sabados, vice president of marketing at Universal Electric Corp. "If the power goes down, the PDU switches to the other circuit."

Degree Controls

Degree Controls (www.degreec.com) has "been taking heat out of electronics for 11 years," says Eric Birch, an executive at the company. Degree Controls manages airflow, directing cool air to areas where it's needed. "We

put a bunch of temperature sensors on the input side of top racks, then put in underfloor fans. The fan assembly fits underneath a grate tile, and the fans are thermostatically controlled by what is happening to the temperature [inside the rack]," Birch notes. Degree Control products "can blow as much as 1,100 cubic feet per minute (cfm) of air on hot spots."

"Everybody knows a hot aisle/cold aisle configuration [is preferred]," Birch says, but "in most data centers they can't afford the downtime to change." Degree Controls products can be installed without downtime, he adds.

Further, Birch says that with intelligent management of the flow of cold air, a data center can "typically save 20 to 30%" of its energy cost. "What this means in practice is that most people don't really want to see their energy bill go down. They want to extend the number of servers. [This can be done] if you manage the cool air you've already got. We're not creating any cold air; we're simply moving around existing cold air [more efficiently]."

With a willingness to custom-design products that serve the needs of the SME, companies such as these are able to help organizations effectively and affordably support expansion or improvement of their present data centers.

Great Potential

"We're the kind of guys who, if you call us up and say you need five or 10 of something, we're not going to hang up the telephone," says Jack Heiser, engineering manager of Marway Power Solutions (www.marway.com), an engineering and manufacturing company specializing in custom power products.

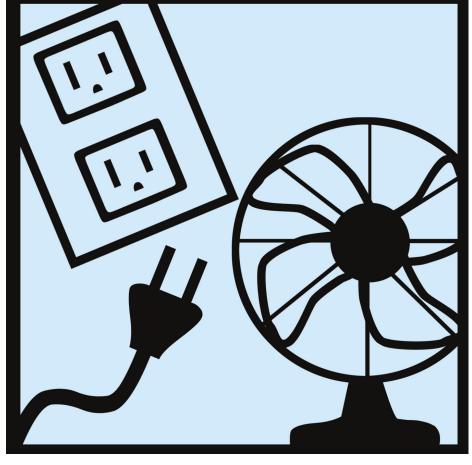
"We did a project for a company in San Diego. They had an unusual set of power requirements and couldn't find an off-theshelf solution. They wanted electronic monitoring with automatic switchover to backup power but couldn't find what they needed offthe-shelf," Heiser continues. Marway was able to provide the exact system the company needed.

In addition to specialty systems such as the one described above, "We build some very mundane products. For example, we had a customer who needed a power strip with special links and special receptacles," notes Heiser. Marway provided the custom strips. "We're happy to do anything from the mundane to the complex," he says.

Heiser says, "A typical interaction with a customer starts with a phone call. A customer has a problem that needs to be solved. A dialogue is started, we begin the design process, have a back-and-forth conversation with the customer, and capture a wish list. We then try to come up with a solution, provide a quotation, and hopefully have a match."

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switch outlets on or off based on environmental factors.

Universal Electric Corp.

Universal Electric Corp. (www.uecorp .com) offers interesting power distribution systems called the Starline Track Busway product line, says President Joel Ross, as "a series of copper bars inside a metal housing." Ross describes these distribution busways as similar to track lighting—the power is carried along the bars, and a tap is inserted and twisted to access the power.

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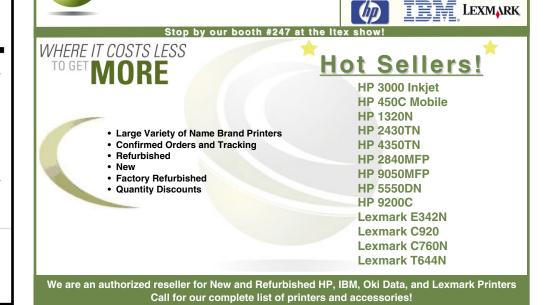
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Smaller VoIP Manufacturers You Should Know

Internet Telephony Service Providers Target SMEs

by Timothy L. Warner

By Now, most IT managers of small to medium-sized enterprises are already aware of VoIP's advantages, and most have made some sort of decision regarding VoIP implementation, whether it's already in place, being worked on, or placed on a back burner.

With VoIP, administrative and end-user flexibility means that end users can administer inbound and outbound calls by using

their computers. VoIP users can also receive telephone voicemail messages as email attachments for listening at any connected computer. And employers can drastically reduce their companies' long-distance telephone bills by leveraging VoIP and their existing LANs and Internet communications infrastructure. IT decision-makers can effectively regulate their VoIP implementation by enabling QoS to prioritize call traffic on their networks.

But who do you turn to when your enterprise is looking for VoIP products and services? We've identified a few VoIP providers that may be worth considering if you plan to migrate your SME from a PSTN-based to a VoIP-based telephony infrastructure.

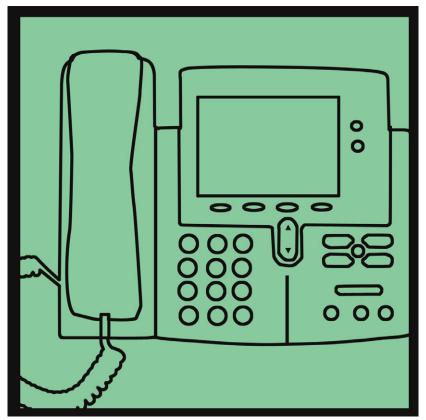
FirstHand Technologies

In the corporate VoIP arena, FirstHand Technologies (www.firsthandtech.com) is unique because it securely extends the PBX features of several vendors—Nortel (www.nortel.com), NEC (www.nec.com), Sylantro Systems (www.sylantro.com), BroadSoft (www.broadsoft.com), Bluesocket (www.bluesocket.com), and Asterisk (www.aster isk.org)—out to the mobile workforce over both Wi-Fi and cellular networks.

According to FirstHand Technologies President and CEO David Hattey, "The FirstHand Enterprise Mobility Solution is ideal for an enterprise-type organization that, as part of its communications infrastructure, is using PBXes from different vendors due to mergers or other factors."

"Using the FirstHand Enterprise Mobility Solution UC (Unified Communications)—a combination of gateway and client software for single-mode and dual-mode devices—an enterprise's mobile workforce benefits from the Mobile UC model," he notes.

Mobile UC features include presence, instant messaging, group call, corporate directory access, extension dialing, mid-call features (hold, forward, do not disturb), and inbound call redirecting over both cellular and Wi-Fi networks.



Hattey explains that the FirstHand Enterprise Mobility Solution is both carrier-agnostic and enterprise-centric so road warriors, regardless of which carrier network they are using, still access all the features and benefits of the solution.

"Enterprise Mobility Solution supports a wide number of mobile devices, including BlackBerry, Nokia, and Windows Mobile devices. The key benefit to organizations is that it doesn't need to dispose of its road warriors' existing mobile devices as the odds are high that the Mobile UC solution client software runs on their devices," says Hattey.

BlueNote Networks

BlueNote Networks (www.bluenote networks.com) resides at the forefront of delivering open, highly scalable, flexible, and secure enterprise IP telephony solutions. According to BlueNote Director of Market Development Greg Pisano, what sets BlueNote apart from the rest of the VoIP provider pack is BlueNote's integration of Web services with enterprise telephony.

"Telephony services typically run on isolated, standalone PBX systems with proprietary provisioning and management systems offering limited programmatic

interfaces," Pisano says.
"Because of this architectural
separation, it has been costly,
time-consuming, and cumbersome for enterprises to
couple communications services with business applications and processes. BlueNote Networks solutions
address these issues by combining telephony with business applications through
Web services."

By treating telephony and other real-time communications as reusable Web services, BlueNote Networks helps organizations rapidly deploy powerful communications-enabled business applications that enhance collaboration, productivity, customer service, and business value.

"With our award-winning family of SessionSuite Business Communications Platforms, enterprises, ISVs, and solution providers can quick-

ly and easily create business applications, processes, and Web sites that embed real-time communications through standard Internet protocols, interfaces, and infrastructures for anywhere, anytime access," Pisano notes.

TalkSwitch

TalkSwitch (www.talkswitch.com) develops a line of hybrid IP PBX phone systems that gives small business owners all the features they need to make their businesses sound larger and more professional. Features such as auto attendants, music on hold, and remote extensions (you can set

your cellular or home phone to be an extension off the system, so your callers can easily reach you) are great for traveling workers or for companies that offer after-hours or emergency services.

Chris Brennan, TalkSwitch's public relations manager, says TalkSwitch systems allow users to connect both to traditional and VoIP telephone networks. "This means small businesses can make the move to VoIP at their own speed and convenience. In other words, they don't need to abandon their traditional telephone connections completely when they go to VoIP," Brennan says.

"TalkSwitch systems are designed to be installed, configured, and managed by the customer with no special technical training required. The systems allow users to choose between traditional analog connections and IP on both the line and extension side, meaning the customer can choose the mix of traditional and VoIP telephone lines they use, as well as the mix of analog and IP handsets they use in the office."

Brennan cites price point as a market differentiator between TalkSwitch and its competition. "TalkSwitch systems are very affordable, starting as low as \$695 for a fully featured IP PBX," he says.

As voice/data convergence takes on increased currency in our ultra-connected world, SME decision-makers should discover that, like most technological advances, there exists an inversely proportional relationship between price point and feature set. That is to say, as VoIP hardware and implementation costs decrease, the solution's features and return on investment correspondingly increase.

Great Potential

VonTek (www.vontek.com) bills itself as "The SME VoIP Phone Company." Consequently, a natural question for SME data center managers is, "So what can you do for us, and at what cost?"

For starters, VonTek's voiceVirtualOffice product brings IP PBX (IP over Private Branch Exchange) technology and functionality to the SME at a core price point of \$24.99 per line.

VonTek offers both basic and advanced VoIP features to its customers, including the ability to port area codes between geographic locations and to centrally manage users' phone features and voicemail boxes.



Storage Under The Radar

Continued from Page 1

longer periods of time, yet have limited access to new technologies and high-end solutions—many of which have been priced or designed beyond their means," Woolery says.

ioStor

Founded by a handful of storage veterans in 2002, the management team for ioStor (562/777-3488; www.iostor.com) has more than 10 years of experience in the research and design of storage technologies. According to Marketing Manager Billy Zou, that team has pioneered technologies in the early generation of hybrid storage systems, including PowerPC RISC processorbased IDE-to-SCSI and IDE-to-Fibre RAID subsystems.

Today, the company is geared to meet an increasing requirement for storage in the SME sector and fill the gap between the cost of enterprise storage systems and the budgets of SME customers. To meet those needs, the ioStor Web site enables easy navigation, simple terminology, and useful tutorials that can help to smooth the process for online storage product ordering.

"The management team also believes the company's ability to lower manufacturing

cost overseas while maintaining assembly and integration in the U.S. will further benefit the targeted user groups," Zou says. "In addition to the exceptional value that ioStor.com brings to the customers, the company also provides differentiated product offerings and carefully designed protection plans in each shipped ioStor box."

With a core competency in IP-based storage architecture, ioStor brings enterpriseclass RAID hardware features to the desktop form factor to meet the growing demand from the SME sector, Zou says. All ioStor storage systems come with a standard service pack that includes up to three years of customer service and labor support, unit exchange service, advanced parts replacement, and loaner unit protection

StoneFly

Named for a trout fly, StoneFly (www stonefly.com) launched in 2000 behind the strength of a new form of iSCSI-based data storage technology and has since focused on the development of cost-effective SANs. Although it still does business under the StoneFly name, in early 2006, the company was acquired by Dynamic Network Factory (www.dy namicnetworkfactory.com), a maker of

high-performance NAS, SAN, RAID, and iSCSI systems.

"Our goal with the acquisition was to make the company stronger than ever by building upon its proven IP SAN expertise while expanding its OEM and reseller channels in the U.S. and abroad where demand is high for reliable, scalable, and affordable iSCSI storage," says Mo Tahmasebi, president and CEO of Dynamic Network Factory.

StoneFly has developed its IP SAN-based Storage Concentrators and the StoneFusion Operating System with midsized businesses in mind. The company's three core Concentrator product lines feature the aforementioned StoneFusion, an IP-based, block-level provisioning appliance that centralizes storage management, control, and monitoring of logical storage volumes.

According to StoneFly Product Manager Jame Ervin, the company's IP SAN systems offer a broad range of deployment options and many expansion scenarios. "They can scale vertically or horizontally, giving customers the choice of scaling performance and/or capacity, depending on their requirements," Ervin says. "In addition, the Storage Concentrators were designed with ease of use in mind and are easily deployed and configured. Our IP SANs can be deployed in as little as 15 minutes, depending on how many servers will be connecting."

Great Potential

One-size-fits-all storage systems can work for some enterprises, but for others, they can prove unwieldy. In order to more accurately meet customer needs, Sans Digital (562/801-2888; www.sansdigital.com) has teamed with industry leaders to create off-the-shelf or fully customized solutions that can satisfy a wide variety of uses, including audio-video editing, data backup, surveillance system, database storage, imaging, file serving, and others.

The company's product lines include Accu-RAID, which features SCSI U320 or Fibre Channel 4Gpbs to SATA RAID subsystems with up to 16-bay, hot-swappable SATA drive trays, dedicated RAID 6 engines, and a redundant power supply. Also available are the MobileSTOR products, with interchangeable SATA tray designs and cableless backplane in compact storage products with varied interfaces and sizes; TowerRAID, a compact and easy-to-install 4-bay SATA enclosure; and AccuNAS, Linux- and Windows-based NAS rackmounts for SMEs and larger enterprises.

Sans Digital offers free, comprehensive support on all of its products. The company utilizes a wide network of distributors and resellers, including ASI (www.asipartner.com), TigerDirect.com, Newegg.com, eCOST.com, Mwave.com, and many others.

2008 Data Center Hardware Budgets

Continued from Page 1

virtualization, implementing server virtualization in the next 12 months, or had already implemented server virtualization. The 58% of respondents breaks down to 26%, 11%, and 21%, respectively. Clearly, these findings indicate virtualization is gaining in the SME data center and rapidly

enjoyed the same level of adoption, as only 17% of survey respondents had either implemented the technology or were planning to implement it during the next 12 months.

So what storage priorities are front and center for SMEs? Forrester's survey shows that 65% of survey respondents cited data retention and archiving, expansion of storage

think energy efficiency will be a key issue for SME data center managers. Ken G. Brill, founder and executive director of the Uptime Institute, says 2008 will be the first year IT will make energy efficiency an important part of the IT hardware procurement process.

"Any additional premium for more efficient hardware is more than repaid by lower energy costs and even more important, less capital cost for power and cooling site infrastructure," says Brill. And every watt saved at the power plug reduces data center expenses by about \$10 over three years, he adds. This analysis supports the assertion that procuring energy-efficient hardware doesn't just make good sense environmentally; it can also generate tangible economic benefits.

What data center hardware will enjoy the most growth during 2008? According to Kahn, as data and files continue to grow and costs decline on a per-terabyte basis, server replacement and consolidation will drive SME data center activities, especially with new server software from Microsoft (www.microsoft.com)—SQL Server 2008 and Windows Server 2008—arriving in the marketplace this year. In fact, says Kahn, the number of servers may actually shrink during 2008 as core counts increase and managers use virtualization more to consolidate many older servers onto 8-core servers and larger

"These changes will affect many dimensions, including storage," says Kahn. In other words, not only will some SMEs face a software upgrade to new versions of mission-critical Microsoft products, they may also be faced with the prospect of upgrading existing hardware to accommodate the change, whether it is by adding more physical servers or by implementing server virtualization in their data centers.

Other issues that Kahn predicts will concern SMEs this year include doing better backups and determining ways to eliminate data duplication. But, he says, as increasing core counts and processing power appear in new servers, SMEs will begin to think differently about how they use and manage their servers. In fact, he adds, the pressure brought to bear by these changes in hardware may force some SMEs to consider outsourcing the headaches of running a small data center.

Possible Software Shift

Kahn points out that in the future, the focus may shift from hardware to software, thus increasing software budgets accordingly. With the ongoing emphasis on server and storage virtualization, it's evident a shift in how hardware is procured, used, and managed will take place. While virtualization will help administrators make better use of their hardware and perhaps even reduce future hardware budgets, Kahn says the need to manage it effectively may increase software budgets.

Forrester's survey shows that 65% of survey respondents cited data retention and archiving, expansion of storage capacity, and improving data protection as top priorities.

evolving from a cutting edge into a musthave data center technology.

The survey reveals only 37% of SME respondents were interested in, had implemented, or were planning to implement blade servers during the next 12 months. 43% of SME survey respondents said they were not interested in blade servers.

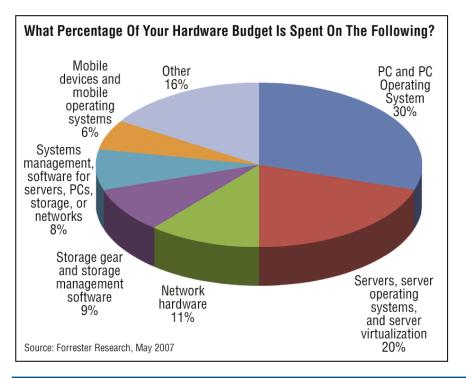
In terms of storage, the survey results reveal 34% of respondents had either implemented or were planning to implement NAS and archiving technologies. And even though server virtualization is making headway in the data center, storage virtualization has not

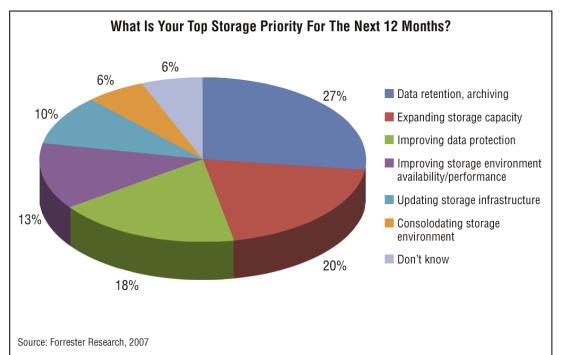
capacity, and improving data protection as top priorities.

The Year Ahead

Not surprisingly, virtualization—at least at the server level—will continue to be a hot topic during 2008. Mike Kahn, managing director at market research firm The Clipper Group (www.clipper.com), says making the transition to virtualization will be one of the key issues for SME data center managers this year.

In today's green-conscious society, it should come as no surprise that some experts





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Product Releases

CLIENTS

■ Axiomtek announced an updated version of its eBOX646-FL500 called the eBOX646-FL500-4COM, a slim, compact, fanless embedded computer powered by the AMD Geode LX800 low-power processor. Both power- and cost-saving, the 4COM provides four COM ports, three USB 2.0 ports, VGA, dual LAN, and DB-25 and CompactFlash Type II sockets, as well as a screw-type 20-watt AC/DC power adapter. The 4COM is only 43 x 200 x 139mm (HxWxD) with a built-in 3.5-inch SBC84620 single-board computer.

■ Ricoh announced the release of its Aficio SP C400DN color printer. Aimed at SMEs, the 1,200 x 1,200dpi laser printer offers 26ppm speeds in both color and black and white. It holds up to 1,750 sheets and can warm up in less than 15 seconds for color prints or 10 seconds for monochrome. The \$999 unit supports Unauthorized Copy Control and DOSS, too.

■ The new LM4e Series of barcode printers from SATO is designed for the small business and startup segments of the market. The thermal printers support linear and 2D symbologies and come in 203 or 305dpi editions. The LM4e line prints at up to 6ips (inches per second) with a 4.1-inch print width; it supports 8.6-inch OD rolls, too. The series offers legacy parallel and serial connections, as well as 802.11g and USB.

MESSAGING & TELEPHONY

■ **IBM** has released the IBM Atlas for Lotus Connections, a corporate social networking visualization and analysis tool intended to

help organizations make the most of their investments in social software by answering questions such as who the key experts are on a given topic, how they are connected, and whom a user's contacts know that they do not. The four Web 2.0-based components of Atlas—My Net, Find, Reach, and Net—help users find the important connections and the relationships between different groups and maneuver their personal and corporate networks. Atlas is made to work with IBM Lotus Connections, the industry's first integrated enterprise social software platform.

■ MessageOne announced advanced import capabilities for its EMS (Email Management Services) that allow customers to import messages stored in Microsoft Exchange, local PST files, and legacy on-premise archives. EMS centralizes distributed email into a localized archive, giving customers complete control over email retention, compliance, e-discovery, and litigation holds. By streamlining the email archiving process, EMS is able to import messages into the archive from the three sources mentioned above. In Microsoft Exchange, EMS can be configured to import for diverse time periods per user. Local PST files are restored with the metadata necessary for litigation holds and retention policy management. Finally, legacy on-premise archives are solved by EMS associating imported messages with original mailbox metadata.

■ MPC Computers has released a new email archival appliance. The hardware/software MPC MailFRAME captures, stores, and retrieves email automatically and offers support for open standards-based message servers. The appliance stores copies of the emails and lets users search its

archived messages regardless of whether the users deleted the messages from their own systems. The appliance supports Microsoft Exchange, Lotus Notes, and other mail servers and can store the archived messages on storage devices that use CIFS and NFS interfaces. The MPC MailFRAME is available for 500 users at \$7,999 and can scale easily without hardware changes.

NETWORKING & VPN

■ CA launched its updated CA Change and Configuration Management platform, which lets users maintain compliance and continuity when implementing new or updated software to the system. The offering also includes CA Software Change Manager for Mainframe r12, which now supports concurrent use of multiple z/OS address spaces and simultaneous execution of multiple actions, automatic archiving of previous software, and automatic detection of links between libraries for compiles and builds. The software also has an easier-to-use interface. Customers also have access to the CA Unicenter Patch Management r11.2, which improves change management functions between packaged software running on Windows 2000/XP/2003 and IBM AIX.

■ NetEX has announced a WAN optimization product, HyperIP for VMware ESX Server. HyperIP for VMware is the first software-only release of HyperIP, and it now supports wide-area data acceleration using VMware. According to NetEX, this product lets companies improve performance by up to 600% without upgrading any hardware. HyperIP for VMware enables companies to efficiently move TCP data and includes configurations with data

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rates from 1Mbps to over OC-12. HyperIP for VMware will be available starting between \$6,000 and \$8,000.

. . . .

■ Panasonic announced an office productivity suite for multiple business needs. The KX-HG400 is a network gateway IP-based solution that enables remote connection and Web-based desktop access to network cameras, phones, and networkable printers such as Panasonic's KX-FLB881, a multifunction business product with fax, scan, laser print, and copy capabilities. The Panasonic KX-HG400 acts as a central communications gateway through a single point of entry for network devices. The KX-HG400 has a built-in firewall for security, supports speeds up to four seconds per page, and has the capability for a LAN connection. The KX-FLB881 is available now, and the KX-HG400 will be available in March.

PHYSICAL INFRASTRUCTURE

■ Emerson Network Power announced a capacity expansion to the upflow configuration of the Liebert DS precision cooling system. The cooling system is now available in nominal ratings of 53kW (15 tons), 70kW (20 tons), 77kW (22 tons), and 105kW (30 tons). The Liebert DS precision cooling system provides support for applications that require cooling delivered from the top of the unit in data centers or telecommunications environments that do not have a raised floor. The Liebert DS features digital scroll compressors, which allow unit capacities to quickly adapt to changing room conditions. The equipment is capable of responding to changes as small as 1 degree Fahrenheit and 1% relative humidity. The Liebert DS also comes



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Product Releases

with the Liebert iCOM control system to provide advanced diagnostic and maintenance support.

■ Upsite Technologies has introduced the next version of its Koldlok Extended Raised Floor Grommets, Items 10012 and 10013, which now have better modularity and better sealing. Items 10012 and 10013 also feature a screw hole design for the end caps (now made of PC/ABS plastic) and flange (now with a 3-inch rather than a 2inch width). The 3- and 6-inch grommets can seal raised-floor tiles that are up to 24 inches long and also provide better cooling, better equipment reliability, and more static pressure under the raised floor.

SECURITY

■ Lancope released the latest version of its NBA (network behavior and analysis) software, StealthWatch System 5.7. The system makes use of flow data, including Cisco IOS NetFlow or sFlow data, to extend scalability and value and has several security features, including DHCP Server Integration. The StealthWatch ID-1000 integrates with DHCP servers and offers MAC address and other information for audit and control purposes. It also has the ability to create dashboards and custom reports via its Document Builder feature and supports tracking interactions with external systems, while associating the devices with the country of origin to help zone locking. StealthWatch provides tools for investigating historical host activity and includes some important network features, including QoS reporting and trending, as well as a feature that can identify top talkers by zone. The system features Autonomous Systems Reporting, as well, which helps administrators during capacity planning. Pricing starts at \$49,995.

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- NET OPTICS has introduced a family of Multi-Segment Bypass switches that are designed to protect and flexibly manage inline IPS deployments for network protection. A single 1U device can handle up to four IPS appliances that ensure failover protection. The stations are made from copper, fiber, or a combination of the two. Other features include protection from power loss, high bandwidth demands, and software vulnerabilities.
- Qualys released QualysGuard PCI 2.0, an on-demand PCI platform. Version 2.0 features capabilities to let merchants break out their PCI-scoped network into organizational segments to scan a select number of hosts or scan in parallel. Additionally, QualysGuard PCI 2.0 offers a user interface that improves navigation through the scan, remediation, and e-filing process for customers' compliance status to multiple acquiring banks. The software features real-time dashboard reporting to let users access a summary of the entire PCI-scoped network. Reports can be run with specific criteria, such as host name, IP address, and vulnerability severity. The platform allows multiple questionnaires to be generated for separate business units, and customers can add comments for each question to the document exceptions.
- Symantec has released a real-time security service for server and application log files called Symantec Log Management Service. Aimed at large enterprises, Symantec Log Management Service is

designed to help companies comply with security standards. Once the service is deployed into an IT environment, Symantec manages the server and application logs and alerts companies if and when there are problems.

SERVERS

■ Asempra released BCS (Business Continuity Server) 2.6, which features improved support for SQL servers, thin provisioning capabilities, and tools to help customers manage the demand for continuous availability and data protection. BCS 2.6 protects SQL, Exchange, and Windows File Server applications and data through an approach that captures and indexes all data events to create a virtualized data store for recovery at any point in time. BCS 2.6 also allows thin provisioning for BCS-connected storage to let customers define long data retention periods for each protected data set. Version 2.6 offers enhancements for "in-file" deduplication to reduce network bandwidth and storage utilization, and the software also offers cluster loadbalancing and storage multipath support to ensure system availability.

STORAGE

■ CRU-DataPort introduced the latest edition of its Data Express DE75, formerly the StorCase. This hot-swappable hard drive enclosure is ideally suited to RAID, data security, transporting, backup, testing, and audio/video editing on workstations and servers in data centers and other space-constrained environments. The Serial Attached SCSI/Serial ATA Data Express DE75 features a low-profile design and a tough steel construction that works in both standard and half-height 5.25-inch drive bays. Other features include drive activity, SCSI ID indicators, and a security lock.

■ Intel has unveiled the Z-P140 PATA SSD, one of the tiniest SSDs in the industry. The 2GB and 4GB ultra-small devices are quick, power-efficient, and suited for handheld mobile devices such as mobile Internet devices, digital entertainment, and embedded products. The Z-P140 PATA SSD offers an industry-standard PATA interface and is 400 times smaller in volume than a 1.8-inch hard drive and, at 0.6 grams, is 75 times lighter.

■ Onaro announced updated products in the SANscreen product family to provide end-toend service visibility for both physical and virtual servers across SAN and NAS networked storage environments. Enhancements to Service Insight, along with NAS Insight, VM Insight, and Array Performance Module for Application Insight, integrate NAS and SAN into the balance of IT operations. An Array Performance Module for Application Insight discovers, collects, and maintains array performance information. This data is added to the fabric traffic information collected by Application Insight. With the Array Performance Module, Application Insight users are able to see complete host-to-disk application load visibility. NAS Insight 1.0 is an addition to the SANscreen product family designed to support enterprise NAS deployments. NAS Insight 1.0 provides global visibility across all networked, attached systems through a single pane of glass. Service Insight 4.5 has been enhanced to provide service path visibility for companies deploying



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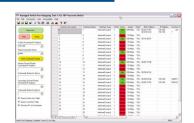
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OPINIONS

When Interfaces Collide

Direct-attached storage is the preferred method of backing up and aggregating content for many users. Such devices can also serve as a sort of disaster recovery if the direct-attached backup storage device is taken off the site where the original copy of the content is kept.

devices that plug in to these ports and also allows users to charge consumer devices.

FireWire (IEEE 1394) interfaces became popular among video-oriented users because of their greater transfer speed. Mac computers included them, as did some

popular with people capturing and editing video. eSATA interfaces are also common on the latest set-top boxes with DVR capability to allow expansion of the storage capacity of the DVR with an external storage device. Backups on an eSATA external storage device can easily be three times faster than those on USB devices. The current incarnation of eSATA does not support on-bus power like USB.

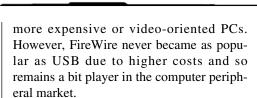
USB, FireWire, eSATA, Oh My!

Starting in the late 1990s, USB created a broad-based revolution in direct-connect technology. It enabled many common connector peripheral devices, ranging from external storage to flash-based thumb drives to printers, keyboards, and mice. Inexpensive and versatile, USB flash and portable hard drive devices replaced floppy drives as the exchange medium of choice within two years of their introduction in 2000.

USB interfaces proliferated on computers and USB hubs and let users expand the number of USB devices that could be connected to a host device. USB specification 2.0 also enabled device power through the USB bus. Low-power USB cables and interfaces can provide up to 100mA of sustained current, while the high-power variety can provide up to 500mA sustained at 5V. By making it possible to eliminate power supplies and cords, user desktops were freed from the messy array of cables from many peripheral devices. Power over USB also led to a range of innovative and silly

TOM COUGHLIN

₹ Tom Coughlin is the author of numerous authoritative reports on digital storage and its applications. He is also the founder and organizer of the annual Storage Visions Conference (www.storagevisions.com) and lead consultant for Coughlin Associates, which provides digital storage technical and market analysis and consulting services. Coughlin is a frequent writer and international speaker on digital storage and storage applications. You can find out more about him at www.tomcoughlin.com.



After the T-13 committee adopted the SATA specification in 2004, it created specifications for an external connection based upon this specification. eSATA provides data transfer speeds of 3,000Mbps and the potential for native vs. bridged implementation of the interface. This provides an inherent savings from a common internal and external interface architecture. eSATA external storage devices became

USB 3.0 & The Attack Of The eSATA

In September at the Intel Developer Forum, Intel, HP, Microsoft, NEC, NXP Semiconductors, and Texas Instruments announced a USB 3.0 Promoter Group as part of the USB Implementers Forum to create a next-generation USB interface with about 10 times the speed of the current incarnation of USB (about 480Mbps). This standard is to be backward-compatible with

the previous USB technologies. The ports and cabling will allow backward compatibility but also pave the way for future optical transport. A completed USB 3.0 specification is expected by the first half of this year with implementations following that release.

But eSATA has long-standing plans of its own to double the interface speed by next year and add a higher-power bus capability than the current USB interface this year. The eSATA 6.0 specification, which is set to deploy next year, will allow up to 6,000Mbps sustained data rates. Also, the eSATA working group plans to release power over eSATA specifications this month with initial products to follow the second half of this year. eSATA power will allow up to 1,500mA sustained current (three times that of the current high-power USB specification). We may see eSATA toasters in the not-too-distant future. . . .

Things are shaping up for an external direct-attached interface war between USB and eSATA, with FireWire probably being the first casualty. This struggle will lead to benefits and concerns for users. Benefits come from greater data rates and capabilities. The concerns come from potential format obsolescence if eSATA totally displaces USB. Format obsolescence leads to loss of access to data that may become trapped on devices with obsolete interfaces.

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Get Started With Virtualization

Where Does Your **SME Begin?**

by Robyn Weisman

VIRTUALIZATION IS becoming so ubiquitous that it has become the IT media equivalent of Britney Spears. Ironically, perhaps, virtualization's overexposure has made it difficult for IT and data center managers, particularly in small to midsized enterprises, to ask the simple question "Where do I begin?"

Actually, it's a great question. At first glance, virtualization comes across as a cure-all for a panoply of network-related woes, including physical, power, and space limitations. However, the benefits of virtualization technologies come with complexities, says ConfigureSoft (www.configure soft.com) CTO Dennis Moreau. "All of these complexities are addressable by process, controls, and technology, but they are things you didn't need to do when you weren't deeply virtualized," he notes. Following are some tips to keep in mind as your SME gets started.

Taking That First Step—Or Two

According to Moreau, the first step for IT decision makers who are considering virtualization is to understand what has already been learned about managing and leveraging virtualization technologies effectively. "On the management front, this means assimilating the best practice guidance that has emerged from authoritative sources on virtualization configuration management, performance management, and technology selection," Moreau says.

"On the leveraging front, this means clearly planning how to take advantage of the value that virtualization offers from a business perspective," Moreau continues. He says this includes the improved flexibility, automation, and alignment capabilities that virtualization can offer.

Together, these two angles can support increased infrastructural agility and the ability to respond to business problems and opportunities much more effectively, Moreau says. Also, it allows for building out management processes, methodology, and instrumentation in a way that emphasizes flexibility and effective decision support feedback.

"This offers a confident starting point and a means of staying aligned throughout the process," says Moreau. "In short, don't reinvent the wheel and remember to measure so that you can manage."

Getting The C-Level Executives Onboard

For his part, George Gerchow, technology strategist at the ConfigureSoft Center for Policy and Compliance, says any decision to introduce virtualization technologies needs to be aligned with the organization's business needs. "For a virtualization project to have success in execution and ongoing support, it must be sponsored at the C-level. This will support establishing budget, training, infrastructure, governance, and accountability for meeting business objectives," he says.

Differentiating Between Server & Storage Virtualization

Understanding the difference between server and storage virtualization is crucial. According to Sanjeev Jorapur, vice president of technology at networking and protocol processing firm NetXen (www.net xen.com), storage virtualization includes block-level, file system-level, and volumelevel virtualization. "All of these offer the ability to hide the complexity of managing individual disks from the OS," Jorapur says. "The virtualization layer presents a block view, which shows the logical disk; volume view, which shows the array; or a file system view to the OS."

On the other hand, server virtualization is essentially the ability to run multiple virtual machines on a single physical server so that each of the virtual machines thinks it has its own dedicated hardware to run on.

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How Not To Measure Your Virtualization Strategy

"One challenge many organizations face is understanding the complexity of their IT environment and defining meaningful measures that accurately reflect the impact of a consolidation initiative," says Scott Fueless, senior consultant at management consulting firm Compass (www.compassmc.com).

Because organizations often have difficulty figuring out how much they are saving by implementing virtualization strategies, they too often fall into one of these two categories, both of which you want to avoid:

Hope for the best. In other words, says Fueless, organizations fail to make specific measurements, hoping instead that they see downward trends become visible in the base costs of such areas as power or hardware. "While cost is an important factor, it is not the sole measure of IT efficiency," says Fueless.

Better than nothing. Fueless says that other organizations throw together a few tools and

variables and try to measure hardware utilization and fail to accurately assess the project's overall performance.

"Obviously, the first two approaches fall short of truly measuring the impact of a virtualization project over time, yet most companies don't invest in more sophisticated measurements," says Fueless.

Fueless says that, for example, the point of server consolidation is to maximize the capacity of each server and thereby increase efficiency. However, new hardware provides greater capacity, which means more CPU seconds and a decline in utilization rates.

"Organizations that measure utilization know in advance that hardware refreshes will produce a pattern of peaks and valleys in measurement reporting," Fueless says. "Not only is the measure inefficient, it is not accurately reflecting progress of the consolidation initiative over time."





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HyperOffice Ties SME Staff Closer Together For Increased Productivity

by Chris A. MacKinnon

How many times have you wanted to access an important file when a coworker had it in his possession? Or how about when you are home on the weekend and need access to information that sits at the office? What's more, how often have you been frustrated due to miscommunication in the office and had to schedule extra meeting time? If these questions hit home, your small to midsized enterprise may be in need of an effective collaboration solution. Lori Arnold, president of Coldwell Banker Apex, Realtors, says her office is humming like a well-oiled machine since she started using HyperOffice (www.hyperoffice.com) as her company's Web collaboration and online intranet software solution.

The Problem

Arnold says before deciding to go with HyperOffice, her company was trying to solve a two-fold problem. She explains, "First, on the management level, we needed to share documents and have a place to post them for future use. Our company has nine branch offices, each with its own manager. It is helpful when we can post a variety of management tools on HyperOffice so our managers can access things they needwithout having to call and request items they cannot locate." Arnold says the same applies when office workers need access to service people on the weekend when the corporate office is closed and things such as business copiers need repair.

The second reason, Arnold notes, was so that Coldwell Banker Apex, Realtors could provide structure for its office staff in every branch. "By using the task section," Arnold says, "we have been able to provide a checklist for items that need to be completed in each branch. HyperOffice also comes in handy when we hire a new staff person. The daily, weekly, and monthly tasks allow our new hire to quickly learn what the position entails. HyperOffice also allows us, using the message of the day, to remind our branch staff about upcoming deadlines for classes, RSVPs to events, and other such deadlines." Arnold says her staff is much

more connected and is able to reduce the number of meetings with the help of HyperOffice's effective communication capabilities.

Farzin Arsanjani, president of Hyper-Office, says the SMEs that compose Hyper-Office customers are trying to solve the great collaboration question. Arsanjani explains, "When you peel back the layers on what collaboration means, it's the ability

the company's part. I also chose Hyper-Office because it was priced well for the value it boasted. Being a Coldwell Banker-approved vendor always brings a level of credibility to me, as well."

Arsanjani says some customers are looking for an alternative to Microsoft Exchange (www.microsoft.com) or other collaboration solutions that require servers, software, maintenance, installation, and updating, as well as all the pain that comes with the conventional approach to software and hardware. He comments, "HyperOffice solves this in part because it is Webware, or



for teams comprised by partners, employees, and customers to work together. In other words, it's not just the ability of employees and managers to work together inside the company. Instead, SMEs define collaboration as employees and managers working with customers, partners, investors, suppliers, designers, and so on."

Arsanjani says SMEs can't do all of this with email efficiently and effectively. He notes, "You can't schedule meetings or share contacts or manage projects. Email doesn't scale well. How many messages does it take to get two people to schedule a conference call? Now multiply that by the number of people working as a team on some project, with some of those people working from remote locations, or opening a new branch office, in different time zones, inside and outside the company. And, when the business is growing, the problem just escalates and begins to increasingly hinder growth."

The Answer

Arnold says she thoroughly researched her options before she settled on Hyper-Office. "I viewed several other products, but most of them required more IT support than I was willing (or had the time) to obtain." she notes. "We needed a turnkey product much more than one that required lots of work and supervision on software as a service; because it integrates many collaboration tools into one suite, including business-class email, shared contacts, and calendars, project management, document management; and because customers don't have to download, install, configure, maintain, patch, upgrade, and support this software. It deploys and scales easily."

Arnold echoes this and says that implementation was very easy. "The product is quite similar to other office productivity solutions, so there is not a great deal of training needed," she notes. "The HyperOffice representatives were always available for quick questions and made it clear that if we needed more in-depth help, that help was available." Arnold says HyperOffice has worked as planned ("if not better") for Coldwell Banker Apex, Realtors. She explains, "There are tools included in HyperOffice that we were unaware of that have been helpful, which we did not anticipate. We are moving toward having our staff be able to upload reports to HyperOffice, so I can access them there rather than using email or fax. We are extremely organized when multiple people are accessing information at the same time."

The Extras

Because HyperOffice is a SaaS (software as a service), Arsanjani says there are no

deployment pains. He says, "It can take literally less than an hour to install. And actually, in our case, you don't install anything. Instead, you begin the process of using HyperOffice by implementing it, uploading contacts, setting user permissions using the desktop client to the HyperOffice server. Or, depending on the breadth of what a business needs to accomplish, it might take a few hours to implement. This frees a small to midsized enterprise to focus on business, not running an IT shop."

Arsanjani says SMEs can grow or shrink HyperOffice as needed, without having to pay for over-investing or under-committing to a number of seats and server capacity that they might (or might not) use. He comments, "Technology decisions are not trivial, especially if you get the processor, server, and software decisions wrong, with no ability to scale. All of a sudden, you're locked into a bracket that is cost-effective for a number of seats. But if you grow faster, you pay a penalty to scale up. And then, if you can scale up only by investing in a new server and the enterprise-level license for the collaboration software, what happens to your old server?" He says that this way you are making duplicate investments that very few SMEs might be able to

When all is said and done, Arnold says she has no regrets. "HyperOffice solved our problems. There was a slight adjustment to get everyone used to looking for items on HyperOffice (before calling me for something they need), but as president, this greatly reduced the number of calls to me and my company coordinator," she notes. "The product has performed well for us, and I feel that HyperOffice has made my entire staff and management team more productive." Arnold says she highly recommends HyperOffice to anyone looking for a reliable solution that requires very little technical support.

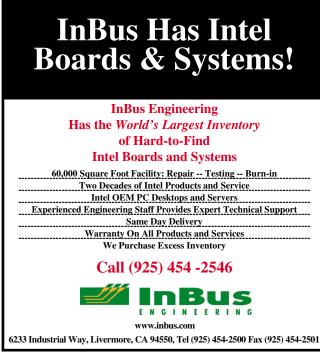
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"The product has performed well for us, and I feel that HyperOffice has made my entire staff and management team more productive," says Lori Arnold, president of Coldwell Banker Apex, Realtors.

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Ethics In IT & Beyond

"If Aristotle Ran General Motors" **Outlines Four Main Tenets**

by Don Reisinger

ETHICAL BEHAVIOR in the workplace has always been somewhat of a vexing issue in the realm of IT. For too long, management has considered IT professionals a necessity instead of a valued member of the team. And while Tom Morris' "If Aristotle Ran General Motors" doesn't necessarily touch on the impact ethics can play in the IT environment, it highlights a host of issues in the IT space and helps give an understanding of what companies should be doing to facilitate a better work environment.

Truth & Beauty

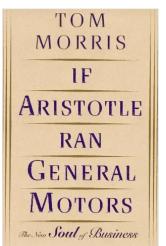
Morris breaks the book up into four sections that discuss a variety of topics. In the end, he ties all of these issues together to create a more holistic view of what is good for employees in any industry. As Morris points out, he is trying to "catch the new wave of wisdom at work today and create the right environment for ultimate motivation in the workplace."

Morris begins his discussion by describing why truth is one of the most important

elements of any well-run organization. If you're an IT professional who has been tasked with a remodeling of a data center and need to stay within budget but just can't seem to live up to the task, Morris says you should express the issue to management. In turn, management should accept it as the truth and act

accordingly. As Morris explains, truth in the workplace "is always the foundation for solving any problem in a sustainable way."

Beyond that, Morris believes there is an element of "active beauty" that should be present in any organization. He believes that no matter the size of the project or the importance of the task, an employee needs to hear that the task he performed was appreciated and well done. As Morris says, "However permanent or ephemeral, there is beauty in providing excellence of quality in a service or product." And by acknowledging that beauty, Morris contends that a healthier workplace quickly results, which ultimately leads to greater performance and corporate success.



If Aristotle Ran **General Motors**

Author: Tom Morris Publisher: Owl Books

Price: \$14

Format: Soft cover, 216 pages

Goodness & Unity

Goodness is a topic that Morris relies heavily on to make his point that an ethical organization is a betterrun organization. He notes that "unethical means selfdestructive."

Throughout that discussion, Morris asserts that doing the right thing is always the best choice, regardless of the outcome. But as he explains, this only works if the entire organization—from the top down realizes that doing what's right is the best option. In essence, Morris believes that management dictates the ethical tenor of any organization and creates the policy of people.

Following those lines, Morris believes "what gets measured gets done." If a company doesn't adhere to a sense of goodness and doesn't actively create a solid ethical code in daily operations, few employees will follow that tack if given the option of doing what is right or getting ahead. According to Morris, rules are not only an integral part of any organization; they provide a backbone for management.

Finally, Morris ties in all of his other beliefs with an idea of unity. Morris believes that every individual in an organization should be celebrated as part of the team. He adds that "the second universal

spiritual human need is to feel a sense of union with something greater than self."

IT Tie-In

And perhaps it is this that has the greatest bearing on what goes on in the IT profession today. On many occasions, it's the IT function that has been relegated to an adjunct of "important business operations," and because IT professionals do not actively contribute to profit-making in an organization, they are often left out of this ideal of unity. In the end, though, it's Morris' belief that any and all employees, IT or not, should be made to feel part of the team if a company wants to grow and become more successful.

In the end, Morris does a fine job detailing the philosophies surrounding the workplace and exactly how to get the most out of employees by creating an environment that's conducive to hard work. And it's his four tenets-Truth, Beauty, Goodness, and Unity—that he believes will create a betterrun organization.

KEY CONCEPTS

IT professionals and management alike should always strive to do what is right, regardless of the outcome. Upon doing so, author Tom Morris believes every individual will have a greater sense of ethics.

Perhaps impacting IT professionals most, Morris believes that all members of an organization should be made to feel part of something greater than themselves. He contends that employees should feel like part of the team that's actively trying to further the company's goals.





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The Future Of IT Training

Trends Are Coming Your Way: Is Your SME Ready?

by Elizabeth Millard

IT IS A SWIFTLY moving field, so it's no surprise that training is also rife with new directions, fresh programs, and ever-deepening coursework. As the economy threatens to grow a bit softer in the coming year, many small to midsized enterprises may find themselves tightening training budgets, but that doesn't mean IT employees will have to go without. Most likely, the trick will be to train more efficiently rather than more extensively. Here's a glimpse at some of the trends that could take hold within the coming year.

Real-World Testing

During the past decade, there's been a growing focus on putting together training with testing, notes Dave Meissner of testing firm Prometric (www.prometric.com). Although thousands of people have gone through IT training and gained certifications, having book- and classroom-based knowledge doesn't always translate to hands-on skills, he notes. "People need to be able to demonstrate the skills and ability to perform the job," says Meissner. In the past, employees gained these types of skills on the job, but with the drive for a more productive workforce and increasing efficiency, many SMEs no longer have the luxury to "train in" members of their IT staff.

Also, Meissner adds, the era of the generalist is largely disappearing. He notes that when his own career began as a software developer, he could write code for a few days and then work on a user interface. But as technology gets more multilayered, the need for specialization has occurred, and few companies boast a lone IT employee in charge of multiple areas such as development, data center management, security, network analysis, and myriad other jobs.

Because of these factors, look for more testing in the future, Meissner says. The facilities to do real-world testing—such as proving that someone can set up a network effectively or do server virtualization—are

to learn some engineering to go along with their technical acumen. In the past few years, most have had to ponder better ways to draw heat out of their centers so that airconditioning and standalone cooling units don't use more power than needed.

In the near future, it's likely that this type of informal education will become more formalized, believes Brian Margarita, CEO of IT staffing and project development firm TalentFuse (www.talentfuse .com). "Learn how to design data centers rather than just learning how to operate them," he says. "Architects rarely get replaced, but all other jobs can be outsourced, rendered, or replaced."

Tuition Reimbursement

When budgets get tight, tuition reimbursement and other expenses such as travel tend to go under the ax, but with the increasing reliance on technology for meeting business goals, training expenses may not suffer the same fate in the future as they did during the dot-com days.

"Employers recognize that it's far better to train someone that's already in place than to go through the hiring process," says Meissner. "Hopefully, that will translate to scales were tipped in favor of work experience, but that balance looks like it's beginning to shift. "Certifications are becoming much more important, and employers are more interested in people who have them," he says. Certifications can run the gamut from technical training on operating systems such as Linux to expertise with specific vendors such as Cisco (www.cisco.com) and Oracle (www .oracle.com).

Even if people have extensive knowledge of these systems, they may find themselves out of luck if making a job switch, McMillan says. "I hear a lot of sad stories of people who have years of experience but no certifications to back that up," he notes. "They find themselves locked out in the job market and end up going back to school at their own expense."

Traditional & Nontraditional IT Skills

Some tried-and-true IT skills won't go out of style in the near future, or even in the long term, experts believe. Here are some that are here to stay:

- Security
- Project management
- Network administration
- Software development
- Microsoft certifications
- · Server administration

Some nontraditional IT skills that could come in handy in tomorrow's data centers include:

- Financial analysis
- Architecture
- Engineering
- · Human resources
- · Contract negotiation
- · Business communication
- Vendor selection

With the drive for a more productive workforce and increasing efficiency, many SMEs no longer have the luxury to "train in" IT staff members.

much more numerous than they were in the past and more affordable, too.

The weakening economy should actually drive this type of testing, believes Meissner. "IT training is counter-cyclical to the economy," he says. "When it softens, people go into technology as a second career, or companies do more testing to make sure their training dollars are well-spent."

Data Center Building

With an increasing focus on power and cooling issues, many IT managers have had more training dollars in the future, although it remains to be seen if testing will also be covered."

Certifications

For the past few years, there has been ongoing discussion about whether certifications or work experience were the more important area for professionals in the IT field. According to Troy McMillan, product developer at Kaplan IT and author of "Change Your Career: Computer Network Security as Your New Profession," the

Get Started With Virtualization

Continued from Page 19

Server Virtualization & The SME

According to Net Xen's Jorapur, the applicability of server virtualization in SMEs is twofold. First off, underutilized servers, such as email or Web servers, may be consolidated onto a single machine, saving power, management, and capital cost.

In addition, it can make your IT infrastructure more robust. "Virtual machines can be instantiated and started up much faster than getting a new physical server running," Jorapur says. "If your [Microsoft] Exchange server crashes, you have to either rebuild it or have it running in a high-availability setup. In a virtual environment, you could either restart the VM [virtual machine] or migrate it to another physical machine."

Server virtualization also provides IT with increased uptime. "When physical servers need maintenance, the system

administrator can migrate the VMs over to another physical machine, perform the necessary maintenance, and migrate the VMs back," says Jorapur.

Phasing It In

Jorapur says that virtualization needs to be phased into your overall network, and establishing realistic timelines and evaluating the technologies required is critical. "We would not recommend going from bare metal to a fully virtualized infrastructure without truly implementing it in pools and running with it for some time," he says. "You may find that some applications can never be virtualized for one reason or another—and won't know until you try it."

Gerchow says that because of the organizational and technology learning curve, many organizations start by introducing virtualization into such departments as quality assurance, development, and evaluative business units. Meanwhile, many SMEs focus on virtualizing the 80% of servers that host relatively low-complexity, low-risk services.

"This defers the need to comprehensively address the emerging compliance and management complexity issues," Gerchow says, adding that he is by no means putting down virtualization's capabilities. "It is more a recognition of the immaturity of guidance, tools, and expertise in addressing the harder issues, going after the low-hanging fruit first."



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WHAT'S HAPPENING

Maximize Your Cooling Systems

Data Center Resources Provides Products & Services Designed To Help

by Julie Sartain

FOR SEVERAL YEARS, industry analysts have been warning that the number of transistors placed on an integrated circuit would double about every two years and will continue to increase exponentially. This prediction, which has proven to be accurate, has created an entire new set of problems that data center managers must address.

According to Rick Berendes, co-founder and product manager at Data Center Resources (866/325-1121; www.datacenter resources.com), this exponential increase results in computing systems that generate more heat than data centers were designed to cool. "In the past year," says Berendes, "it seems that those predictions have become even more of a reality." His company was experiencing huge demand for products that could be used to improve its customers' existing cooling systems, and those customers were asking about floor grommets, cooling cabinets, rack cooling, and monitoring systems.

Berendes maintains that the transition to blade servers and 1U servers significantly increased processing power, which created major issues with both power and cooling at the rack level. "Many data centers are simply not designed for this type of load," says Berendes. Traditional raised-floor cooling is designed to provide enough airflow to cool 3 to 4kW of equipment. Racks fully populated with today's servers can easily exceed 10kW. This leaves data center managers with a choice to only partially populate their

racks, add more cooling capacity, or try to increase their existing efficiency, he adds.

R&D Process

Berendes noticed in 2002 that there were no national solution providers focused on the special requirements of the data center. Most suppliers at that time were local cable installers or office supply resellers that carried a few

lines of products, but there was not a full spectrum of products from several leading manufacturers in each product category.

It also quickly became apparent, adds Berendes, that many customers were unsure of what they needed; they just knew they had problems. Data Center Resources was also getting many inquiries from companies with green initiatives, asking how their companies could improve cooling efficiency. Because every data center is unique, especially when it comes to airflow, it was hard for Data Center Resources to make recommendations without going onsite to see the situation. "This is when we realized there was a market demand for cooling audits that would access the company's current environment; we could then make recommendations for improvement," notes Berendes.

In searching for solutions, Data Center Resources occasionally discovered requirements not being met in the marketplace. This led the company to start developing custom products, which also filled the needs for other customers. "We decided to create our own brand called Data Watch, which would consist of product lines that were extensions of our original custom designs," says Berendes. "Soon we had lines for rack power, console furniture, environmental monitoring, and even blanking panels. This helped us to become true solution providers."

The company is now in the beginning stages of offering select services for its customers. One of the services it offers is a cooling audit of its customers' data center to assist customers in making the most efficient use of their existing cooling capacities.

How It Works

The cooling audits include a service con-

sultant who visits onsite to gather data on rack temperatures, power levels, temperature of CRAC supply and return, position of floor tiles, and other important factors. "Then we generate a report with a detailed analysis of the company's current envi-

ronment," says Berendes.

A CFD (computational fluid dynamics) analysis can also be provided to show a visual image of the temperature and airflow in the data center, he adds. This displays a color-coded view of the whole data center, including the individual racks, to highlight problems. This tool is used to determine where the problem areas are and helps determine why the problem exists.

The second part of the audit includes specific steps and recommendations for improving efficiency. These recommendations can range from the very simple, such as using blanking panels on empty racks, to more complex solutions, such as using self-contained cooling cabinets for a row that contains high-density equipment. A second CFD analysis can show how the proposed changes will affect temperature and airflow patterns.

Other Products & Services

Data Center Resources developed another product line called Power Watch as a result

of a customer's request for a rack PDU with two cords because it didn't have room to put four PDUs in the back of its cabinets. This customer wanted to have a current meter that not only displayed the current but would also provide an alarm if the threshold was exceeded. This led to the awareness that other customers wanted that same capability, and it became the company's first product line.

Then customers began requesting the capability to remotely monitor and set and receive alarms. So the company released the Enviro Watch product, which connects to the Power Watch PDUs to provide remote monitoring. Enviro Watch also accepts temperature and humidity sensors for monitoring those items. In addition, it provides remote monitoring, threshold settings, SNMP alerts, data logging, and graphing.

"Because of the increased complexity of the IP access, software design, and various interfaces, this was, by far, the most challenging product we developed," says Berendes. "It took much longer than we anticipated and was, at times, a very frustrating experience, but we are extremely happy with the end result, and the response from our customers has been overwhelmingly positive."

Data Center Resources' new services program will encompass cooling audits, data center design services, control room design services, and maintenance/commissioning audits. Each of these services will have multiple tiers, which allow the company to market to a wide range of needs and budgets. In addition, it is focusing on expanding and developing product offerings in the cooling and power areas. More data centers are using blade technology, which creates unique needs for high-density solutions.

"It's a bit of a balancing act being a hybrid reseller and manufacturer, but we are very careful not to develop products that cross directly with the products of our other suppliers," notes Berendes. "We sell considerably more of other vendors' products than the ones we developed, but it's nice to have the capability to create new solutions for opportunities that fall outside the current offerings. Every time we field a call, it may lead us down a new product path."

THREE QUESTIONS

CP Secure Protects Your Network From Malware

New Ultra High-Speed Security Appliances

by Julie Sartain

CP Secure, WHICH GATEWAY antivirus pioneers founded in 2002, focuses on high-speed Web purification appliances. Its patent-pending "stream-based scanning" allows the content security gateway units to spot and stop malware in real time. The company, headquartered in Cupertino, Calif., operates globally in North America, Europe, and Asia with one exclusive distributor in North America, Computer Consulting Partners of Scottsdale, Ariz.

CP Secure (888/722-6847; www.cpsecure.com) consulting partners David Schlesinger, director of risk management and certified information systems security professional; Keith Dolgaard, president of Computer Consulting Partners and

North American distributor of CP Content Security Gateway products; and Shuang Ji, CP Secure's CEO, share their thoughts on CP Secure and the data center and IT industries.

What are the biggest IT-related issues facing today's small to midsized enterprise?

"Internet crime and not enough staff to fight it," says Schlesinger. Even after installing antivirus software and firewalls, many businesses still remain unprotected against sophisticated Webbased attacks.

"Security appliances are an excellent strategy because they require no local overhead to

manage them, yet they work continuously to protect the enterprise," says Dolgaard. CP Secure's line of CSG (Content Security Gateway) appliances scan incoming Web traffic to remove malware in real time and eliminate spyware, viruses, and worms at the Internet gateway before malicious code can enter the network.

■ What should *Processor* readers know about your company's products?

High-speed scanning sets the CSG appliances apart from all other scanning solutions, notes Schlesinger. It's not a proxy and, without any proxy delay, no compromises are needed in the scanning rules. With old-fashioned proxies, compromises were necessary to meet the need for speed. The common marketing claim of "deep packet inspection" exposes this problem—that is, only part of the incoming packet was examined. The rest of the HTTP packet is allowed to pass without inspection, or too much latency occurs.

The CSG products inspect 100% of the code passing through for total packet inspection. Each line of designated code is scanned for malware by three scanning engines, including two antivirus utilities, Kaspersky and CSG Scanner. Optionally, a CSG appliance can reject up to 85% of all spam by using reputation filters.

The CP Secure units work so transparently, adds Schlesinger, users are completely

unaware that everything is scanned and cleaned of malicious code until the malware-notification screen pops up and tells them. Available from a number of local resellers across the United States and Canada, these appliances include one year of malware signature updates from the CP Secure antivirus labs.

■ What makes your company unique?

It would have to be CP Secure's patent-pending stream-based scanning architecture, says Schlesinger; CP Secure is the first, and it owns the patent. The slowest CP Secure scanner (the CSG 110) scans at 50Mbps and performs total packet inspection. The 2500 unit clocks in at 480Mbps. An ISP such as EarthLink or AOL could load-balance a few of these units and filter out virtually all malware for its subscribers. Most likely, in the future all ISPs will offer this level of protection.

"Cross-site scripting attacks require getting malicious code onto the user's browser. CP Secure in front of your Web portal protects your Web servers and your customers," says Ji. "We can't imagine how a company can allow unfiltered Internet traffic though their firewall when CP Secure will purify it from all malicious code and malware with no latency. It can handle nearly a gigabit of Web traffic a second. There is no comparable product in terms of sheer, ultra-high-speed throughput."

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